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PATENT APPLICATION

ATTORNEY DOCKET NO. 10006946-1

IN THE
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Daniel Crosson

Confirmation No.: 4361

Application No.: 09/819,911

Examiner: Thong H. Vu

Filing Date: 03-28-2001

Group Art Unit: 2616

Title: A Software Based Internet Protocol Address Selection Method and System

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TRANSMITTAL OF APPEAL BRIEF

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on August 31, 2007.

☒ The fee for filing this Appeal Brief is $510.00 (37 CFR 41.20).

☐ No Additional Fee Required.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

☐ (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)-(d)) for the total number of months checked below:

☐ 1st Month $120	☐ 2nd Month $460	☐ 3rd Month $1050	☐ 4th Month $1640

☐ The extension fee has already been filed in this application.

☒ (b) Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account 08-2025 the sum of $ 510. At any time during the pendency of this application, please charge any fees required or credit any over payment to Deposit Account 08-2025 pursuant to 37 CFR 1.25. Additionally please charge any fees to Deposit Account 08-2025 under 37 CFR 1.16 through 1.21 inclusive, and any other sections in Title 37 of the Code of Federal Regulations that may regulate fees.

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Date of facsimile: October 26, 2007
Typed Name: Ginger Yount
Signature: Ginger Yount

Respectfully submitted,
Daniel Crosson
By _____
Dan C. Hu
Attorney/Agent for Applicant(s)
Reg No. : 40,025
Date : October 26, 2007
Telephone : (713) 468-8880, ext. 304

Rev 10/07(ApBrief)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Daniel Crosson	§	Art Unit:	2616
Serial No.:	09/819,911	§	Examiner:	Thong H. Vu
Filed:	March 28, 2001	§		
For:	A Software Based Internet Protocol Address Selection Method and System	§	Atty. Dkt. No.:	10006946-1 (HPC.0202US)

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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APPEAL BRIEF PURSUANT TO 37 C.F.R § 41.37

Sir:

The final rejection of claims 1-53 is hereby appealed.

I. REAL PARTY IN INTEREST

The real party in interest is Hewlett-Packard Development Co., L.P.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF THE CLAIMS

Claims 1-53 have been finally rejected and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

No amendment after final rejection has been submitted.

Date of Deposit: October 26, 2007

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Ginger Yount

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The following provides a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number and to the drawings by reference characters, as required by 37 C.F.R. § 41.37(c)(1)(v). Each element of the claims is identified by a corresponding reference to the specification and drawings where applicable. Note that the citation to passages in the specification and drawings for each claim element does not imply that the limitations from the specification and drawings should be read into the corresponding claim element.

Independent claim 1 recites a method for internet protocol (IP) address selection, comprising the steps of:

> assigning a single domain name to a set of server IP addresses corresponding to plural servers (Spec., 6:6-8);
>
> receiving a request for the domain name from a client IP address (Spec., 10:14-15);
>
> retrieving (Fig. 7:716) a set of IP routes linking the server IP addresses and the client IP address (Spec., 6:9-19; 11:3); and
>
> selecting (Fig. 7:718) an IP route from the set of routes which meets predetermined criteria (Spec., 6:9-19; 11:3-5).

Independent claim 15 recites a computer-usable medium embodying computer program code for commanding a computer to perform internet protocol address selection, comprising the steps of:

> assigning a single domain name to a set of server IP addresses corresponding to plural servers (Spec., 6:6-8);
>
> receiving a request for the domain name from a client IP address (Spec., 10:14-15);
>
> retrieving (Fig. 7:716) a set of IP routes linking the server IP addresses and the client IP address (Spec., 6:9-19; 11:3); and
>
> selecting (Fig. 7:718) an IP route from the set of routes which meets predetermined criteria (Spec., 6:9-19; 11:3-5).

Independent claim 25 recites a system for internet protocol (IP) address selection comprising:

> a set of servers (Fig. 1:106, 110), having a single domain name (Spec., 6:6-8);
>
> a client computer (Fig. 1:114);
>
> a set of routers (Fig. 1:108, 112), coupled to the servers and the client computer, for storing IP routes between the servers and the client (Spec., 6:12-14; 9:7-8, 20-21; 10:5-6); and
>
> a domain name system server (Fig. 1:102), coupled to the routers, for downloading the IP routes from the routers (Spec., 9:7-8, 20-21; 10:5-6) for storage in an IP routes database (Fig. 3:314), and, in response to a query containing the domain name received from the client computer, selecting one of the IP routes contained in the IP routes database which meets predetermined criteria (Spec., 10:14-15; 11:3-5).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. Claims 1-53 Rejected Under 35 U.S.C. § 103 As Unpatentable Over U.S. Patent No. 6,779,017 (Lamberton) In View Of U.S. Patent No. 6,272,129 (Dynarski).

VII. ARGUMENT

The claims do not stand or fall together. Instead, Appellant presents separate arguments for various independent and dependent claims. Each of these arguments is separately argued below and presented with separate headings and sub-headings as required by 37 C.F.R. § 41.37(c)(1)(vii).

A. Claims 1-53 Rejected Under 35 U.S.C. § 103 As Unpatentable Over U.S. Patent No. 6,779,017 (Lamberton) In View Of U.S. Patent No. 6,272,129 (Dynarski).

1. Claims 1-3, 5, 11, 12, 14-16, 18, 24-27, 29-32, 40-43, 51-53.

It is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to claim 1 over Lamberton and Dynarski. To make a determination under § 103, several basic factual inquires must be performed, including determining the scope and content of the prior art, and ascertaining the differences between the prior art and the claims at issue. *Graham v. John Deere Co.*, 383 U.S. 1, 17, 148 U.S.P.Q. 459 (1965). Moreover, as recently cautioned by the U.S. Supreme Court, it is important to identify a reason that would have prompted a person of ordinary skill in the art to combine reference teachings to achieve the claimed invention. *See KSR International Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741, 82 U.S.P.Q.2d 1385 (2007).

Here, the hypothetical combination of Lamberton and Dynarski clearly does not disclose or hint at all elements of the claim. In fact, the teachings of the hypothetical combination of Lamberton and Dynarski are quite different from the claimed subject matter.

Note that claim 1 recites a method for IP address selection that comprises:

- assigning a single domain name to a set of server IP addresses corresponding to plural servers;
- receiving a request for the domain name from a client IP address;
- retrieving a set of IP routes linking the server IP addresses and the client IP address; and
- selecting an IP route from the set of routes which meets predetermined criteria.

Several points of error were made in the obviousness rejection of claim 1 over Lamberton and Dynarski. First, the Examiner has mis-quoted language of claim 1 in making the rejection. The first element of claim 1 was identified by the Examiner as follows: "a single domain name to a set of server IP addresses corresponding to plural servers receiving a request for the domain name from a client IP address." 6/4/2007 Office Action at 3. The above quoted language paraphrased by the Examiner makes no grammatical sense and illustrates the improper nature of the obviousness rejection.

A second point of error made by the Examiner is the citation of column 5, line 13, of Lamberton as disclosing the following element of claim 1: "retrieving a set of IP routes linking the server IP addresses and the client IP address." Column 5, line 13, of Lamberton refers to a packet having a source address and a destination address. There is absolutely no indication whatsoever of retrieving a set of IP routes linking server IP addresses and the client IP address.

In response to a request from a client, a dispatcher system in Lamberton checks which server is less busy and routes the packet to that server. Lamberton, 5:16-18. Nowhere in the cited passage of Lamberton is there any indication of *retrieving a set of IP routes* linking the server IP addresses and the client IP address. The dispatching system described in column 5, at

lines 1-26, of Lamberton merely selects one of the servers of the cluster to use for processing the client request. No retrieving of a *set of IP routes* is performed in this passage of Lamberton.

Another point of error made by the Examiner is the citation of the following passages of Lamberton as disclosing the task of "selecting an IP route from the set of routes which meets predetermined criteria": column 6, lines 35-40; column 7, lines 11-27; Fig. 4. *See* 6/4/2007 Office Action at 3. The cited passage in column 6 of Lamberton refers to a request that is forwarded to a server that meets a criterion for being elected to process an initial request. The cited passage in column 7 of Lamberton refers to the selected server informing an end-user browser of the DNS name of the server. This teaching in the cited column 7 passage of Lamberton is significant because, in the embodiment of Fig. 4 (and related Fig. 3) of Lamberton, "each of the servers within the cluster of servers has its *own unique DNS name* at a corresponding IP address, for example, DNS1 and IP1 for the server [321]." Lamberton, 6:61-64 (emphasis added). Thus, according to the embodiment of Figs. 3 and 4 of Lamberton, the multiple servers of a cluster have **individual DNS names** and corresponding IP addresses, which is **contrary** to the recitation in claim 1 that a "single domain name" is assigned to a set of server IP addresses.

Although the prior art technique disclosed in Lamberton teaches that a cluster of servers can be assigned a single DNS name, it is noted that Lamberton teaches that such a technique is associated with disadvantages, namely that a bottleneck can be created since all requests are routed through the load balancer associated with the single DNS name. To address this, Lamberton teaches a technique in which servers of the cluster are assigned unique DNS names with corresponding IP addresses, which is contrary to the subject matter of claim 1.

More fundamentally, contrary to the Examiner's assertion, neither the prior art technique (Fig. 1 or Fig. 2) of Lamberton nor the described embodiment (Figs. 3 and 4) of Lamberton discloses the retrieving of a set of IP routes linking the server IP address and the client IP address (where the client IP address is in a received request), in combination with selecting an IP route from the set of routes which meets predetermined criteria.

In view of the defective application of Lamberton to elements of claim 1, it is respectfully submitted that the obviousness rejection of claim 1 over Lamberton and Dynarski is clearly defective, since even if Lamberton and Dynarski can be properly combined, such hypothetical combination is directed to subject matter that is significantly different from the claimed invention.

Moreover, in the final rejection, the Examiner made the following concession: Lamberton does not explicitly detail "Assigning a set of server address." 6/4/2007 Office Action at 3. The language "assigning a set of server address" appears nowhere in the claim. The specific claim language is as follows: "assigning a single domain name to a set of server IP addresses corresponding to plural servers." Thus, even if Dynarski teaches "assigning a set of server address," as asserted by the Examiner, such teaching would still be irrelevant to the claimed subject matter, since claim 1 does not recite "assigning a set of server address."

The Examiner cited specifically to the following passages of Dynarski: column 4, line 41; column 7, lines 40-57. Column 4, line 41 of Dynarski relates to a user exchanging information or data with one or more users of mobile wireless communications devices. This teaching of Dynarski has nothing to do with the claimed subject matter, which relates to receiving a request for the domain name (which is assigned to a set of server IP addresses corresponding to plural servers) from a client IP address, retrieving a set of IP routes linking the

server IP addresses and the client IP address, and selecting an IP route from the set of routes which meets predetermined criteria.

The cited column 7 passage of Dynarski refers to a mobile node location server that maintains a table that maps current IP addresses for a plurality of mobile communication devices to information uniquely identifying the devices, such as IMSI/ESN numbers. In other words, the table in the mobile node location server of Dynarski maps multiple IP addresses of multiple mobile communication devices to corresponding multiple IMSI/ESN numbers. This teaching is clearly inconsistent with the subject matter of claim 1, which recites assigning a single domain name to a set of server IP addresses corresponding to plural servers. If the IMSI/ESN number is considered the domain name in the context of Dynarski, then what Dynarski would have taught a person of ordinary skill in the art is that multiple domain names are assigned to multiple IP addresses for multiple mobile communication devices.

The cited column 7 passage of Dynarski also refers to tasks performed by the mobile node location server when it is not able to find an IMSI/ESN number for a mobile communication device in the table. In such an event, the cited passage of Dynarski teaches that the mobile node location server initiates a page of the mobile communication device, where the page contains "several pieces of information, such as the source IP address of the remote terminal 10, a service option specifying data or voice over IP service, etc., etc." This latter teaching of Dynarski relates to paging a mobile communication device to locate the mobile communication device – there is absolutely nothing in this passage of Dynarski regarding receiving a request for the domain name (assigned to a set of server IP addresses corresponding to plural servers) from a client IP address, retrieving a set of IP routes linking the server IP

addresses and the client IP address, and selecting an IP route from the set of routes which meets predetermined criteria.

From the foregoing, it is clear that both Lamberton and Dynarski relate to subject matter that is significantly different from the subject matter of claim 1. The Examiner's proposed combination of Lamberton and Dynarski would clearly not have resulted in the claimed invention.

Moreover, in view of the significant differences between Lamberton and Dynarski and the claimed subject matter, a person of ordinary skill in the art would clearly not have been prompted to combine the teachings of Lamberton and Dynarski to achieve the claimed invention. As noted above, Lamberton specifically teaches that the technique of assigning a single DNS name to a cluster of servers is associated with disadvantages, namely that a bottleneck can be created since all requests are routed through the load balancer associated with the single DNS name. To address this shortcoming, Lamberton teaches a technique in which servers of the cluster are assigned unique DNS names with corresponding IP addresses, which is contrary to the subject matter of claim 1, and therefore, teaches away from the subject matter of claim 1. For this further reason, no reason existed that would have prompted a person of ordinary skill in the art to combine the teachings of Lamberton and Dynarski.

Therefore, it is respectfully submitted that a *prima facie* case of obviousness has not been established with respect to claim 1.

Independent claims 15 and 25 are similarly allowable over Lamberton and Dynarski (for reasons similar to those stated above with respect to claim 1).

Dependent claims are allowable for at least the same reasons as corresponding independent claims. Therefore, reversal of the final rejection of the above claims is respectfully requested.

2. Claims 4, 6, 7, 17, 19, 20, 36-38, 45, 47, 50.

The Examiner indicated that features of certain dependent claims (*e.g.*, 4, 6, and 7) are inherent in Lamberton. This rejection based on inherency is erroneous. To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. M.P.E.P. § 2112 (8th ed., Rev. 6), at 2100-48. In relying upon the theory of inherency, "the examiner *must* provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Id.*, at 2100-48. In this case, the Examiner has provided no rationale regarding why features of claims 4, 6, and 7 would be inherently found in the gateway/firewall of Lamberton. In fact, it is respectfully submitted that use of a BGP protocol, Telnet protocol, or finding the shortest AS path, are not inherent features of the gateway/firewall of Lamberton.

The other claims, claims 17, 19, 20, 36-38, 45, 47, and 50 were similarly improperly rejected on the basis of inherency.

In view of the further reasons stated above, reversal of the final rejection of the above claims is respectfully requested.

3. Claims 8, 21.

With respect to dependent claim 8, the Examiner cited column 6, line 28, as disclosing selecting an IP route from a set of routes which has a lowest origin type. 6/4/2007 Office Action

at 5. The Examiner cited passage of Lamberton refers to selecting the least busy server – selecting a least busy server has nothing to do with selecting an IP route that has a lowest origin type, as recited in claim 8.

Claim 21 is similarly further allowable over the cited references. Therefore, reversal of the final rejection of the above claims is respectfully requested.

4. Claims 9, 22.

With respect to claim 9, the Examiner also cited column 6, line 28, of Lamberton as selecting an IP route that has a lowest MED. Selecting a least busy server has nothing to do with selecting an IP route that has a lowest MED.

Claim 22 is similarly allowable over the cited references. Therefore, reversal of the final rejection of the above claims is respectfully requested.

5. Claims 10, 23.

With respect to claim 10, the Examiner stated that selecting the IP route that is equal to a default IP address is a "design choice." The Examiner has cited no evidence that would have indicated that a person of ordinary skill in the art would have recognized that the use of a default IP address in the context of the claimed invention would be a "design choice." Therefore, the obviousness rejection of claim 10 is further defective for the above reasons.

Claim 23 is similarly allowable over the cited references. Therefore, reversal of the final rejection of the above claims is respectfully requested.

6. Claims 13, 28.

Dependent claim 13 further recites "defining an enhanced address resource record, including a domain name, a list of corresponding servers and routers, router retrieval parameters,

a default client/server IP route, and timeouts." With respect to this subject matter of claim 13, the Examiner cited the following passages of Dynarski: column 8, lines 9-18; column 13, lines 4-8; column 16, lines 50-67. The cited column 8 passage describes that an IP address is associated with an IP link between a network access server and a wireless device, which can be forwarded to a home agent. This passage provides absolutely no hint of defining an enhanced address resource record that includes the elements of claim 13. The cited column 13 passage refers to various sub-states of the dormant state of a particular call. Sub-states of a dormant state of a call has nothing to do with the enhanced address resource record including the various elements of claim 13. The cited column 16 passage refers to a feature in which a terminal on an IP network can initiate a paging of a wireless terminal using IWU, without having to have the wireless device be previously registered with the wireless network. The cited passage also refers to address resolution protocol (ARP) requests received over the IP network. However, nothing in the column 16 passage describes the enhanced address resource record including the various elements of claim 13.

In view of the foregoing further reasons, it is clear that the obviousness rejection of claim 13 is defective.

Claim 28 is also further similarly allowable.

Therefore, reversal of the final rejection of the above claims is respectfully requested.

7. Claims 33, 34.

Dependent claim 33 further recites that prior to retrieving the set of IP routes, a database in a cache is checked to find an IP route entry containing an IP route previously indicated as being a best IP route, and in response to finding the IP route entry in the cache, using the IP route previously indicated as being the best IP route as the select IP route. The Examiner cited the

following passage of Lamberton as disclosing these features of claim 33: column 6, lines 6-67. Nowhere in this passage is there any reference whatsoever to checking a database in a cache to find an IP route entry containing an IP route previously indicated as being a best IP route. With respect to the column 6, lines 6-67, passage, the Examiner made the following comment: "select the least busy of the servers." 6/4/2007 Office Action at 7. Selecting the least busy of the servers has nothing to do with checking a database in a cache in the manner recited in claim 33.

The obviousness rejection of claim 33 and its dependent claim 34 is therefore further defective for the foregoing reasons.

In view of the foregoing, reversal of the final rejection of the above claims is respectfully requested.

8. Claims 35, 39, 44, 46, 48, 49.

Dependent claim 35 further recites accessing a field in a record, the field to indicate one of plural techniques for downloading IP routes from routers to the DNS server, and based on the techniques identified by the field, establishing one or more sessions with the routers to download IP routes from the routers into an IP routes database in the DNS server, where retrieving the set of IP routes is performed from the IP routes database.

With respect to claim 35, the Examiner cited column 1, lines 55-60, of Lamberton. 6/4/2007 Office Action at 8. The cited passage of Lamberton refers to "integration applications that allow users of the Web site to directly access information from the company's existing applications." This cited passage of Lamberton further states that "[t]his could include checking the availability of products, querying bank account balances or searching problem databases." Nowhere in this passage of Lamberton is there any hint of accessing a field in a record to indicate one of plural techniques for downloading IP routes from routers to the DNS server.

Therefore, the obviousness rejection of claim 35 is further defective for the above reason.

Claims 44 and 49 are also similarly allowable for the foregoing reasons.

Therefore, reversal of the final rejection of the above claims is respectfully requested.

CONCLUSION

In view of the foregoing, reversal of all final rejections and allowance of all pending claims is respectfully requested.

Respectfully submitted,

Date: Oct 26, 2007

Dan C. Hu
Registration No. 40,025
TROP, PRUNER & HU, P.C.
1616 South Voss Road, Suite 750
Houston, TX 77057-2631
Telephone: (713) 468-8880
Facsimile: (713) 468-8883

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VIII. APPENDIX OF APPEALED CLAIMS

The claims on appeal are:

1. A method for internet protocol (IP) address selection, comprising the steps of:
assigning a single domain name to a set of server IP addresses corresponding to plural servers;
receiving a request for the domain name from a client IP address;
retrieving a set of IP routes linking the server IP addresses and the client IP address; and
selecting an IP route from the set of routes which meets predetermined criteria.

2. The method of claim 1 wherein the retrieving step includes the step of:
retrieving the set of IP routes from a cache database.

3. The method of claim 1 wherein the retrieving step includes the step of:
retrieving the set of IP routes from an IP routes database.

4. The method of claim 1 wherein the retrieving step includes the step of:
retrieving the set of IP routes from a set of routers using a BGP protocol.

5. The method of claim 1 wherein the retrieving step includes the step of:
retrieving the set of IP routes from a set of routers using an SNMP (MIB retrieval) protocol.

6. The method of claim 1 wherein the retrieving step includes the step of:
retrieving the set of IP routes from a set of routers using a Telnet protocol.

7. The method of claim 1 wherein the selecting step includes the step of:
selecting the IP route from the set which has a shortest AS path.

8. The method of claim 1 wherein the selecting step includes the step of:
selecting the IP route from the set which has a lowest origin type.

9. The method of claim 1 wherein the selecting step includes the step of:
selecting the IP route from the set which has a lowest MED.

10. The method of claim 1 wherein the selecting step includes the step of:
selecting the IP route from the set equal to a default IP address.

11. The method of claim 1 further comprising the step of:
storing the IP routes in a cache database.

12. The method of claim 1 further comprising the step of:
storing the IP routes in an IP routes database.

13. The method of claim 1 further comprising the step of:
defining an enhanced address resource record, including a domain name, a list of corresponding servers and routers, router retrieval parameters, a default client/server IP route, and timeouts.

14. The method of claim 1 further comprising the step of:
transmitting an IP address from the set of server IP addresses which corresponds to the selected IP route.

15. A computer-usable medium embodying computer program code for commanding a computer to perform internet protocol address selection, comprising the steps of:
assigning a single domain name to a set of server IP addresses corresponding to plural servers;
receiving a request for the domain name from a client IP address;
retrieving a set of IP routes linking the server IP addresses and the client IP address; and
selecting an IP route from the set of routes which meets predetermined criteria.

16. The computer-usable medium of claim 15 wherein the retrieving step includes the step of:

retrieving the set of IP routes from a cache database.

17. The computer-usable medium of claim 15 wherein the retrieving step includes the step of:

retrieving the set of IP routes from a set of routers using a BGP protocol.

18. The computer-usable medium of claim 15 wherein the retrieving step includes the step of:

retrieving the set of IP routes from a set of routers using an SNMP (MIB retrieval) protocol.

19. The computer-usable medium of claim 15 wherein the retrieving step includes the step of:

retrieving the set of IP routes from a set of routers using a Telnet protocol.

20. The computer-usable medium of claim 15 wherein the selecting step includes the step of:

selecting the IP route from the set which has a shortest AS path.

21. The computer-usable medium of claim 15 wherein the selecting step includes the step of:

selecting the IP route from the set which has a lowest origin type.

22. The computer-usable medium of claim 15 wherein the selecting step includes the step of:

selecting the IP route from the set which has a lowest MED.

23. The computer-usable medium of claim 15 wherein the selecting step includes the step of:

selecting the IP route from the set equal to a default IP address.

24. The computer-usable medium of claim 15 further comprising the step of:

transmitting an IP address from the set of server IP addresses which corresponds to the selected IP route.

25. A system for internet protocol (IP) address selection comprising:

a set of servers, having a single domain name;

a client computer;

a set of routers, coupled to the servers and the client computer, for storing IP routes between the servers and the client; and

a domain name system server, coupled to the routers, for downloading the IP routes from the routers for storage in an IP routes database, and, in response to a query containing the domain name received from the client computer, selecting one of the IP routes contained in the IP routes database which meets predetermined criteria.

26. The system of claim 25 further comprising:

a cache database, coupled to the domain name system server, for storing previously selected IP routes.

27. The system of claim 25, wherein the IP routes database is for storing all of the IP routes.

28. The system of claim 25 wherein:

the domain name system server includes an enhanced address resource record storing the single domain name, a list of the servers and routers, a set of router retrieval parameters, a default IP route, and timeouts; and

the domain name system server accesses the retrieval parameters in order to select the IP routes.

29. The method of claim 1, wherein the client IP address corresponds to a client, wherein the set of IP routes comprises IP routes from the client to the respective plural servers, and

wherein selecting the IP route comprises selecting the IP route corresponding to the server that satisfies the predetermined criteria.

30. The method of claim 1, wherein the client IP address corresponds to a client, wherein the set of IP routes comprises IP routes from the client to the respective plural servers, and

wherein selecting the IP route comprises selecting the IP route to the server associated with a shortest path from the client.

31. The method of claim 1, wherein the assigning, receiving, retrieving, and selecting acts are performed by a domain name system (DNS) server.

32. The method of claim 31, wherein retrieving the set of IP routes comprises retrieving a set of IP routes information relating to the IP routes, where each IP route information is defined by at least two IP addresses.

33. The method of claim 31, further comprising:

prior to retrieving the set of IP routes, checking a database in a cache to find an IP route entry containing an IP route previously indicated as being a best IP route; and

in response to finding the IP route entry in the cache, using the IP route previously indicated as being the best IP route as the selected IP route.

34. The method of claim 33, wherein retrieving the set of IP routes is performed from an IP routes database, and wherein retrieving the set of IP routes from the IP routes database is in response to determining that the IP route entry is not present in the cache.

35. The method of claim 31, further comprising:

accessing a field in a record, the field to indicate one of plural techniques for downloading IP routes from routers to the DNS server; and

based on the technique identified by the field, establishing one or more sessions with the routers to download IP routes from the routers into an IP routes database in the DNS server,

wherein retrieving the set of IP routes is performed from the IP routes database.

36. The method of claim 35, wherein establishing the one or more sessions with the routers comprises establishing one or more Border Gateway Protocol (BGP) sessions with the routers to download IP routes from the routers into the IP routes database, in response to the field indicating use of BGP retrieval.

37. The method of claim 36, wherein establishing the one or more sessions with the routers comprises establishing one or more Simple Network Management Protocol (SNMP) sessions with the routers to download IP routes from the routers into the IP routes database, in response to the field indicating use of Management Information Base (MIB) retrieval.

38. The method of claim 37, wherein establishing the one or more sessions with the routers comprises establishing one or more Telnet sessions with the routers to download IP routes from the routers into the IP routes database, in response to the field indicating use of Telnet retrieval.

39. The method of claim 35, wherein establishing the one or more sessions with the routers comprises establishing one of plural different types of sessions corresponding to the one of plural techniques specified by the field to download IP routes from the routers into the IP routes database.

40. The computer-usable medium of claim 15, wherein the client IP address corresponds to a client, wherein the set of IP routes comprises IP routes from the client to the respective plural servers, and

wherein selecting the IP route comprises selecting the IP route corresponding to the server that satisfies the predetermined criteria.

41. The computer-usable medium of claim 15, wherein the client IP address corresponds to a client, wherein the set of IP routes comprises IP routes from the client to the respective plural servers, and

wherein selecting the IP route comprises selecting the IP route to the server associated with a shortest path from the client.

42. The computer-usable medium of claim 15, wherein retrieving the set of IP routes comprises retrieving a set of IP routes information, where each IP route information is defined by at least two IP addresses.

43. The computer-usable medium of claim 15, wherein retrieving the set of IP routes is performed from an IP routes database.

44. The computer-usable medium of claim 43, wherein the computer program code commands the computer to further:

access a field in a record, the field to indicate one of plural techniques for downloading IP routes from routers to the computer; and

based on the technique identified by the field, establish one or more sessions with the routers to download IP routes from the routers into the IP routes database in the computer.

45. The computer-usable medium of claim 44, wherein establishing the one or more sessions with the routers comprises establishing one or more Border Gateway Protocol (BGP) sessions with the routers to download IP routes from the routers into the IP routes database, in response to the field indicating use of BGP retrieval.

46. The computer-usable medium of claim 44, wherein establishing the one or more sessions with the routers comprises establishing one or more Simple Network Management Protocol (SNMP) sessions with the routers to download IP routes from the routers into the IP routes database, in response to the field indicating use of Management Information Base (MIB) retrieval.

47. The computer-usable medium of claim 44, wherein establishing the one or more sessions with the routers comprises establishing one or more Telnet sessions with the routers to download IP routes from the routers into the IP routes database, in response to the field indicating use of Telnet retrieval.

48. The computer-usable medium of claim 44, wherein establishing the one or more sessions with the routers comprises establishing one of plural different types of sessions corresponding to the one of plural techniques specified by the field to download IP routes from the routers into the IP routes database.

49. The system of claim 25, wherein the domain name system server is adapted to:

access a record containing a field that specifies use of plural techniques for establishing sessions with the routers for downloading the IP routes; and

establishing one of plural different types of sessions corresponding to the one of plural techniques specified by the field to download the IP routes from the routers into the IP routes database.

50. The system of claim 49, wherein the plural different types of sessions comprise Border Gateway Protocol (BGP) sessions, Simple Network Management Protocol (SNMP) sessions, and Telnet sessions.

51. The system of claim 25, wherein the domain name system server selects the IP routes corresponding to the server that satisfies the predetermined criteria.

52. (Previously Presented) The system of claim 25, wherein the domain name system server selects the IP route to the server with a shortest path from the client computer, the predetermined criteria comprising a shortest path criterion.

53. The system of claim 25, wherein the set of servers having the single domain name are associated with plural respective server IP addresses, wherein the client has a client IP address, and

wherein the IP routes downloaded to the IP routes database are defined by the client IP address and the plural respective server IP addresses.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.